

WRDC-TR-90-8007
Volume VIII
Part 32



AD-A248 971



INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VIII - User Interface Subsystem
Part 32 - Text Editor Unit Test Plan

S. Barker

Control Data Corporation
Integration Technology Services
2970 Presidential Drive
Fairborn, OH 45324-6209



September 1990

Final Report for Period 1 April 1987 - 31 December 1990

Approved for Public Release; Distribution is Unlimited

92-09966



MANUFACTURING TECHNOLOGY DIRECTORATE
WRIGHT RESEARCH AND DEVELOPMENT CENTER
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6533

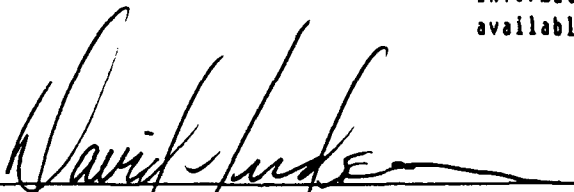
4 17 110

NOTICE

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever, regardless whether or not the government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data. It should not, therefore, be construed or implied by any person, persons, or organization that the Government is licensing or conveying any rights or permission to manufacture, use, or market any patented invention that may in any way be related thereto.

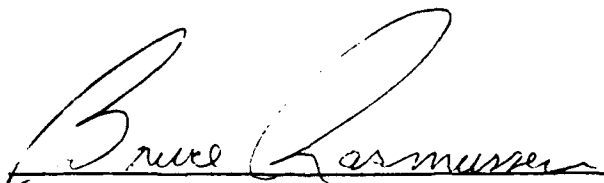
This technical report has been reviewed and is approved for publication.

This report is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations


DAVID L. JUDSON, Project Manager
WRDC/MTI
Wright-Patterson AFB, OH 45433-6533

25 July 91
DATE

FOR THE COMMANDER:


BRUCE A. RASMUSSEN, Chief
WRDC/MTI
Wright-Patterson AFB, OH 45433-6533

25 July 91
DATE

If your address has changed, if you wish to be removed from our mailing list, or if the addressee is no longer employed by your organization please notify WRDC/MTI, Wright-Patterson Air Force Base, OH 45433-6533 to help us maintain a current mailing list.

Copies of this report should not be returned unless return is required by security considerations, contractual obligations, or notice on a specific document.

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS None	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for Public Release; Distribution is Unlimited.	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S) UTP620344600			5. MONITORING ORGANIZATION REPORT NUMBER(S) WRDC-TR-90-8007 Vol. VIII, Part 32	
6a. NAME OF PERFORMING ORGANIZATION Control Data Corporation; Integration Technology Services		6b. OFFICE SYMBOL (if applicable)		7a. NAME OF MONITORING ORGANIZATION WRDC/MTI
6c. ADDRESS (City, State, and ZIP Code) 2970 Presidential Drive Fairborn, OH 45324-6209			7b. ADDRESS (City, State, and ZIP Code) WPAFB, OH 45433-6533	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Wright Research and Development Center, Air Force Systems Command, USAF		8b. OFFICE SYMBOL (if applicable) WRDC/MTI		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUM. F33600-87-C-0464
8c. ADDRESS (City, State, and ZIP Code) Wright-Patterson AFB, Ohio 45433-6533			10. SOURCE OF FUNDING NOS.	
11. TITLE (Include Security Classification) See block 19			PROGRAM ELEMENT NO. 78011F	PROJECT NO. 595600
			TASK NO. F95600	WORK UNIT NO. 20950607
12. PERSONAL AUTHOR(S) Structural Dynamics Research Corporation: Barker, S., et al.				
13a. TYPE OF REPORT Final Report	13b. TIME COVERED 4 / 1 / 87 - 12 / 30 / 90	14. DATE OF REPORT (Yr., Mo., Day) 1990 September 30		15. PAGE COUNT 30
16. SUPPLEMENTARY NOTATION WRDC/MTI Project Priority 6203				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify block no.)	
FIELD	GROUP	SUB GR.		
1308	0905			
19. ABSTRACT (Continue on reverse if necessary and identify block number) This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the Forms Processor Text Editor. BLOCK 11: INTEGRATED INFORMATION SUPPORT SYSTEM Vol VIII -User Interface Subsystem Part 32 - Text Editor Unit Test Plan				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED x SAME AS RPT. DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified	
22a. NAME OF RESPONSIBLE INDIVIDUAL David L. Judson			22b. TELEPHONE NO. (Include Area Code) (513) 255-7371	22c. OFFICE SYMBOL WRDC/MTI

FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

SUBCONTRACTOR

ROLE

Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

TABLE OF CONTENTS

	<u>Page</u>
SECTION 1.0 GENERAL	1-1
1.1 Purpose	1-1
1.2 Project References	1-1
1.3 Terms and Abbreviations	1-2
SECTION 2.0 DEVELOPMENT ACTIVITY	2-1
2.1 Statement of Pretest Activity	2-1
2.2 Pretest Activity Results	2-1
SECTION 3.0 SYSTEM DESCRIPTION	3-1
3.1 System Description	3-1
3.2 Testing Schedule	3-1
3.3 First Location Testing	3-1
3.4 Subsequent Location Testing on Vax ...	3-2
SECTION 4.0 SPECIFICATIONS AND EVALUATIONS	4-1
4.1 Test Specifications	4-1
4.2 Testing Methods and Constraints	4-2
4.3 Test Progression	4-2
4.4 Test Evaluation	4-2
4.4.1 Test Evaluation on VAX	4-2
4.4.2 Test Evaluation on IBM	4-3
SECTION 5.0 TEST PROCEDURES	5-1
5.1 Test Description	5-1
5.2 Test Control	5-1
5.3 Test Procedures	5-1
5.3.1 VAX Test Procedures	5-1
5.3.2 IBM Test Procedures	5-2
5.3.3 Access to IISS	5-2
5.3.4 Choosing the TE Function	5-3
5.3.4.1 VAX Response	5-4
5.3.4.2 IBM Response	5-3
5.3.5 Loading a File	5-3
5.3.5.1 Loading a File on VAX	5-4
5.3.5.2 Loading a File on IBM	5-4
5.3.6 Scrolling	5-5
5.3.7 Paging	5-5
5.3.8 Insert Line	5-6
5.3.9 Midline Break	5-7
5.3.10 Delete Line	5-7
5.3.11 Paste	5-7
5.3.12 Select and Delete Line	5-8

5.3.13	Paste with Fill	5-8
5.3.14	Set Fill Margins	5-9
5.3.15	Search	5-9
5.3.16	Search Next	5-9
5.3.17	Repeat Command	5-10
5.3.18	Repeat Function Key	5-10
5.3.19	Replace	5-10
5.3.20	Clear	5-10
5.3.21	Save on VAX	5-10
5.3.22	Save on IBM	5-10
5.3.23	Quitting	5-10

APPENDICES

A	TEFILE.TXT LISTING	A-1
B	TEFILE.SAV LISTING	B-1
C	VT100 KEYPAD LAYOUTS	C-1

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	



SECTION 1

GENERAL

1.1 Purpose

This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the Forms Processor Text Editor known in this document as the Text Editor (TE). The TE is one configuration item of the Integrated Information Support System (IISS) User Interface (UI).

1.2 Project References

- [1] Systran, ICAM Documentation Standards, IDS150120000C, 15 September 1983.
- [2] Control Data Corporation, System Design Specification, 31 May 1988.
- [3] Structural Dynamics Research Corporation, Text Editor Development Specification, DS 620344600, 31 May 1988.
- [4] Structural Dynamics Research Corporation, Report Writer Unit Test Plan, UTP620344501, 31 May 1988.
- [5] Structural Dynamics Research Corporation, Rapid Application Generator Unit Test Plan, UTP620344502, 31 May 1988.
- [6] Structural Dynamics Research Corporation, Form Processor Unit Test Plan, UTP620344200, 31 May 1988.
- [7] Structural Dynamics Research Corporation, Application Interface Unit Test Plan, UTP620344700, 31 May 1988.
- [8] Structural Dynamics Research Corporation, Forms Language Compiler Unit Test Plan, UTP620344402, 31 May 1988.

- [9] Structural Dynamics Research Corporation, Forms Driven Form Editor Unit Test Plan, UTP620244402, 16 February 1987.
- [10] Structural Dynamics Research Corporation, User Interface Services Unit Test Plan, UTP620344100, 31 May 1988.
- [11] Structural Dynamics Research Corporation, Virtual Terminal Unit Test Plan, UTP620344300, 31 May 1988.

1.3 Terms and Abbreviations

Buffer Name: The default file in which the buffer will be saved if no file is given on a save command.

Current Cursor Position: the position of the cursor before an edit command or function is issued in the text editor.

Cursor Position: the position of the cursor after any command is issued.

Cut and Paste Buffer: where deleted lines go and the paste and fill edit commands get their data.

Display Start Line: the first line in the buffer to be displayed.

Display Size: the number of lines used in the edit area.

Field: two dimensional space on a terminal screen.

Field Pointer: indicates the ITEM which contains the current cursor position.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

Form Processor Text Editor: (FPTE), subset of the Form Processor that consists of software modules that provide text editing capabilities to all users of applications that use the Form Processor.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a test computing environment used to investigate and demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Item: non-decomposable area of a form in which hard-coded descriptive text may be placed and the only defined areas where user data may be input/output.

Message: descriptive text which may be returned in the standard message line on the terminal screen. Messages are used to warn of errors or provide other user information.

Message Line: a line on the terminal screen that is used to display messages.

Operating System: (OS), software supplied with a computer which allows it to supervise its own operations and manage access to hardware facilities such as memory and peripherals.

Paging and Scrolling: a method which allows a form to contain more data than can be displayed with provisions for viewing any portion of the data buffer.

Previous Cursor Position: the position of the cursor when the previous edit command was issued.

Previous Edit Command: the function key pressed before the current one.

Select Line: one terminus of the select range.

Select Mode: when on, certain commands will be executed over the lines in the selected range. The commands are <DELETE LINE> or replace.

Text Editor: (TE), subset of the IISS User Interface that consists of a file editor that is based on the text editing functions built into the Form Processor.

Top of File: the first line of the buffer.

User Interface: (UI), IISS subsystem tht controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Development System: (UIDS), collection of IISS User Interface subsystems that are used by applications programmers as they develop IISS applications. The UIDS includes the Form Editor and Application Generator.

User Interface Services: (UIS), subset of the IISS User Interface that consists of a package of routines that aid users in controlling their environment. It includes message management, change password, and application definition services.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual termianl software by specific software modules written for each type of real terminal supported.

SECTION 2
DEVELOPMENT ACTIVITY

2.1 Statement of Pretest Activity

During system development, the computer program was tested progressively. Functionality was incrementally tested and as bugs were discovered by this testing, the software was corrected.

This testing was conducted by the individual program developer in a manual mode. Any errors were noted by the developer and corrections to the program were then made after a testing session.

2.2 Pretest Activity Results

Testing of the forms discovered a few minor bugs which were then corrected and retesting proved successful. Testing included exceptional conditions and error conditions for editing. The overall test results during development showed no major programming errors. Only minor bugs were discovered and corrected.

SECTION 3

SYSTEM DESCRIPTION

3.1 System Description

The Text Editor is an IISS application and as such can be invoked from the IISS Function Screen. It provides IISS users with file editing capabilities.

The Text Editor has two basic modes, edit and command. Usually you are in the edit mode entering text and using key commands, called functions. The command mode is entered by pressing the <COMMAND> key in the edit mode. The command mode is exited by completing a command or by pressing the <QUIT> key.

Text files are input through the host operating system's file access method, modified by the TE's user and then written back to the file. Depending on the host this may overwrite the old version or create a new version of the file.

Figure 3-1 describes the structure of the TE interfaces.



Figure 3-1 Text Editor Interfaces

3.2 Testing Schedule

The execution of the Text Editor is dependent upon the NTM subsystem of IISS and testing of the TE must be done only after the NTM has been successfully tested. Within the UI subsystem, the TE uses the Form Processor and must be tested only after its successful tests.

3.3 First Location Testing

These tests of the TE require the following:

Equipment: Air Force VAX or IBM, terminals supported by the virtual terminal as listed in the UI Terminal Operator's Guide.

Support Software: The Integrated Information Support System.

Personnel: One integrator familiar with the IISS.

Training: The TE User Manual has been provided with the current release.

Deliverables: The Text Editor subsystem of the IISS UI/VTI.

Test Materials: This test is interactive and can be manually performed as outlined in this test plan. The file TEFIELD.TXT is used for the test and is under IISS Configuration Management.

Security considerations: None.

3.4 Subsequent Location Testing on VAX

The requirements as listed above need to be met; however, in subsequent testing it is advantageous to create a script file of the outlined tests and run this saving the output of the test for future comparisons. The script file, TEUTP.SCP and the saved output from running the script TEUTP.SAV are under IISS Configuration Management.

SECTION 4

SPECIFICATIONS AND EVALUATIONS

4.1 Test Specification

The following requirements are demonstrated by the outlined tests:

Functional Requirements	Test Activity														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Scroll and Page of text.	*														
Insert lines.		*													
Break in midline.			*												
Delete lines.				*											
Select lines for paste buffer.					*										
Paste text.						*									
Paste text with fill.							*								
Quit.								*							
Search for text.									*						
Replace text.										*					
Load a file for editing.											*				
Save the edits.												*			
Clear the workspace.													*		
Set fill margins.														*	
Repeat a command.															*

- A - press <PAGE> and <SCROLL> function keys.
- B - press <INSERT LINE> function key.
- C - press <MIDLINE BREAK> function key.
- D - press <DELETE LINE> function key.
- E - press <SELECT> and <CUT> function keys.
- F - press <PASTE> function key.
- G - press <FILL> function key.
- H - press <QUIT> function key.
- I - enter SEARCH command.
- J - enter REPLACE command.
- K - enter LOAD command.
- L - enter SAVE command.
- M - enter CLEAR command.
- N - enter REPEAT command.

The steps outlined in section 5.3 show the correspondence between the test and the functional requirements as listed in

this section. These functional requirements match those as specified in the TE Development Specification.

4.2 Testing Methods and Constraints

The tests as outlined in section 5.3 must be followed. The required input is stated for each test. This testing tests the normal mode of operation of these functions and does not completely exercise all the error combinations that a user of the TE might create by faulty entry of form field information. These tests have been done, however, through the normal testing done by the developer of these functions. It is suggested that on further running of this test scripting of the test be done and the output from running the script be saved for future testing. No additional constraints are placed on this unit test besides those listed in section 3.3 of this unit test plan.

4.3 Test Progression

The progression of testing of the TE is fully outlined in section 5.3 of this unit test plan. This progression should be followed exactly to insure the successful testing of this IISS configuration item.

4.4 Test Evaluation

The test results are evaluated by comparing the information returned on the various output screens to that specified as successful for the given test. As outlined in section 5.3, each test of TE functionality provides an input screen with the required data entry specified and the resulting output for a successful test.

4.4.1 Test Evaluation on VAX

The TEFIL.SAV file listed in Appendix B should be compared to the TEFIL.SAV produced from the UTP using the VAX/VMS utility DIFFERENCES. To speed up testing of future releases, scripting may be used. If scripting is used, TETST.SAV can also be compared with TEUTP.SAV in CM using the command file DIFFILE.COM which is also under configuration management. The only differences should be the time and date stamps on the IISS Function Screen.

4.4.2 Test Evaluation on IBM

The saved file, TMPSAV, should be compared to the listing in Appendix B. The only differences should be the time and date stamps on the IISS Function Screen.

SECTION 5

TEST PROCEDURES

5.1 Test Description

This test involves loading a supplied text file into the TE and performing the editing operations as outlined in sections 5.3.4 through 5.3.22.

5.2 Test Control

As outlined, this unit test is a manual test which may be done by anyone. The required input data are documented for each function being tested and the resulting successful output is also documented. The order of the testing is also completely documented. The test control information is completely described in section 5.3. Accurate observation of the resulting successful output must be made to ensure the unit test was done properly.

5.3 Test Procedures

To run the unit test plan as outlined you must be logged on to an IISS account. The NTM must be up and running and the UI symbolic names IISSFLIB, IISSULIB and IISSMLIB must be set properly. IISSFLIB defines the location of the UI form definitions (FD files). IISSULIB is defined to be the location of the application form definitions (also FD files). IISSMLIB defines the location containing error message files (MSG files).

5.3.1 VAX Test Procedures

The function key definitions are documented in Appendix C for a VT100.

Assuming the NTM is up and running, an IISS user may start the test using scripting as follows:

```
$ SET DEF <directory containing NTM environment>  
$ VT100 -RTEUTP.SCP -STETST.SAV
```

To execute this test manually enter only VT100 at the second '\$'.

30 September 1990

5.3.2 IBM Test Procedures

You must submit the JCL, BATIISS, as a batch job. This JCL allocates all the necessary datasets for this test. Once the IISS login screen is presented, the same steps are taken as on the VAX.

5.3.3 Access to IISS

Following the activation of the User Interface, the form in Figure 5-1 is displayed.

```

USER ID: _____
PASSWORD: _____
ROLE: _____

```

Figure 5-1 IISS Logon Screen

- (1) USER ID is the identification name of the user, and is 1 to 10 alpha-numeric characters. USER ID is input as "MORENC".
- (2) PASSWORD must be the password associated with the USER ID, and is 1 to 10 alpha-numeric characters. PASSWORD is input as "STANLEY".
- (3) ROLE is any of the identifiers which are associated with the USER ID, and is 1 to 10 alpha-numeric characters. It is checked against functions and applications which are selected by the user. ROLE is input as "MANAGER". When this form is correctly completed and the <ENTER> key is pressed, the screen in Figure 5-2 is displayed.

5.3.4 Choosing the TE Function

Specific applications are accessed through the form displayed in Figure 5-2. When the form appears, the cursor is located in the FUNCTION field. The fields on the form are summarized below.

I I S S T E S T B E D V E R S I O N 2.0			
DATE: __/__/__	TIME__:__:__	USER ID:_____	ROLE:_____
FUNCTION:_____		DEVICE TYPE:_____	DEVICE NAME:_____
Msg: 0		application	

Figure 5-2 IISS Function Screen

- (1) DATE contains the current date. This may not be changed by the user.
- (2) TIME contains the current time. This may not be changed by the user.
- (3) USER ID is the user's identification that was entered in the previous form. This may not be changed by the user.
- (4) ROLE is the currently active role and was entered in the previous form. This may be changed at any time.

5.3.4.1 VAX Response

FUNCTION is the function the user desires to activate. In the function field type "TE" and press the <ENTER> key. The screen in Figure 5-3 is displayed.

5.3.4.2 IBM Response

In the function field type "TE" and press the <RETURN> key. The screen in Figure 5-3 is displayed. It should be noted that the <ENTER> key refreshes the screen rather than doing the normal erasure.

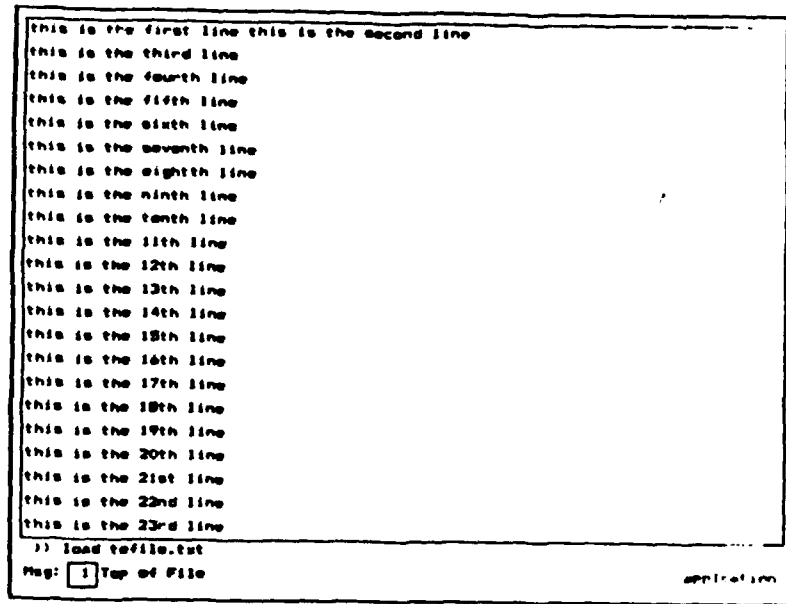


Figure 5-3 TE Screen

5.3.5 Loading a File

To load a file for editing, press the <COMMAND> function key. On the command line type (command)(filename) and press the <ENTER> key. Wait until the next screen appears and then press the <FIRST PAGE> key. Figure 5-4 shows what the screen should look like. A listing of the file TEFIL.TXT is given in Appendix A. A copy of this file is under IISS Configuration Management.

5.3.5.1 Loading a File on VAX

The command should take the format "load tefile.txt".

5.3.5.2 Loading a File on IBM

The command on the IBM is load, while the filename parameter is the ddname of the file if it is physical sequential, or the ddname and member name of the file to edit. For example, if TEFIL is a member of the PDS associated with the ddname, EDTFIL, we would type the command "load EDTFIL(TEFIL)". The BATIISS JCL preallocates the ddname EDTFIL to the PDS IISSCM.R23.UI.ACTEST.

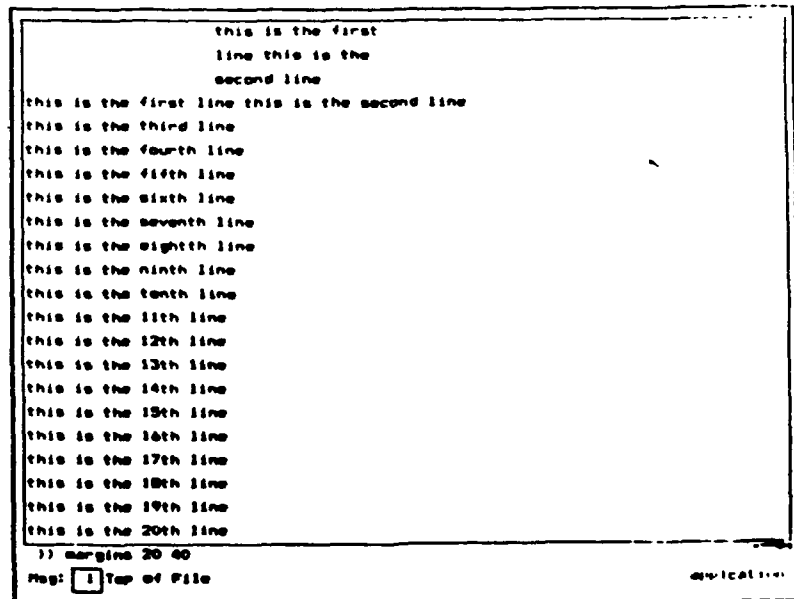


Figure 5-4 TE Screen after a LOAD

5.3.6 Scrolling

Press the <MODE> key until the mode shown in the lower right of the screen is "scrl/page". Next press <SCROLL UP>. All the lines should move up one line and a new one should be displayed at the bottom. Next press <SCROLL DOWN>. All the lines should move down one line and the screen should appear as in Figure 5-4 again.

5.3.7 Paging

Press <PAGE UP>. The last line of Figure 5-4 should be at the top of the display and the next 21 lines after that should be displayed. Next press <PAGE DOWN>. The screen should appear as in Figure 5-4 again. Press <MODE> until the mode shown in the lower right of the screen is "application".

5.3.8 Insert Line

Press <INSERT LINE>. A blank line appears on the same line as the cursor with all following lines scrolled down one as shown in Figure 5-5.

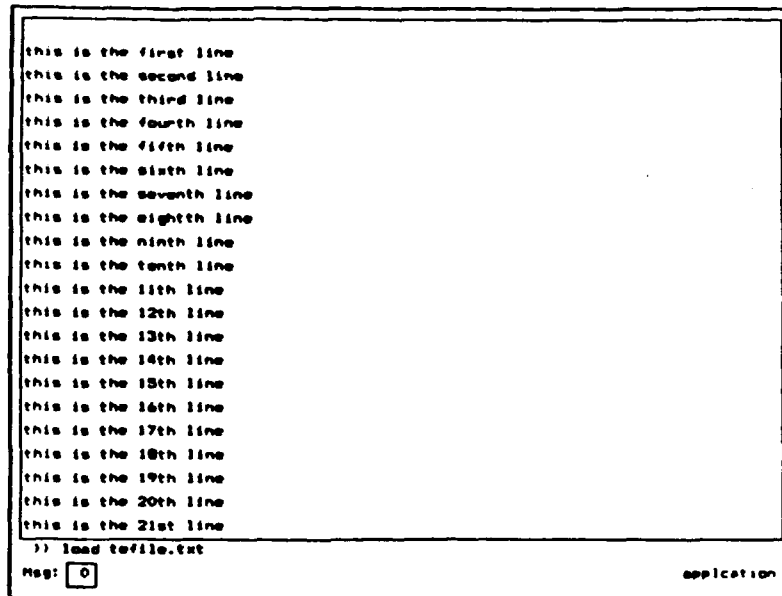


Figure 5-5 TE Screen after Insert Line

5.3.9 Midline Break

Move the cursor down one line and right four characters using the arrow keys. Next press <MIDLINE BREAK>. The line will be broken at the cursor and appear as in Figure 5-6.

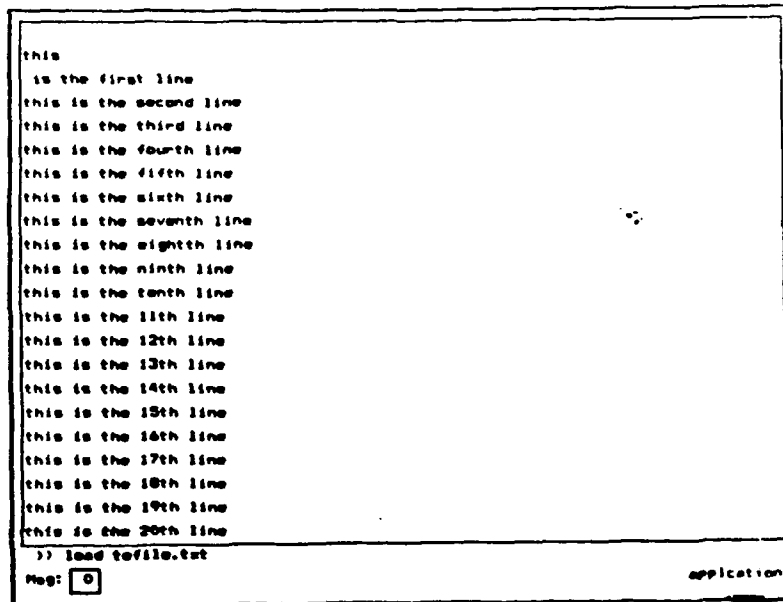


Figure 5-6 TE Screen after Midline Break

5.3.10 Delete Line

Press <DELETE LINE> three times waiting between each keystroke until the screen has been repainted. Three lines should be removed and the following lines scrolled up once for each <DELETE LINE>.

5.3.11 Paste

Press <PASTE> and then <FIRST PAGE>. The screen should again appear as in Figure 5-6.

5.3.12 Select and Delete Line

Press <SELECT>. The line ">>>>>>>SELECT LINE<<<<<<<" should be inserted and the following lines scrolled down once. Next move the cursor down five lines using the arrow keys and press <DELETE LINE>. The selected line and all lines up to the cursor should be removed and the following lines scrolled up to fill the gap.

5.3.13 Paste with Fill

Press <FILL> then <FIRST PAGE>. The selected lines are pasted with fill and should appear as in Figure 5-7.

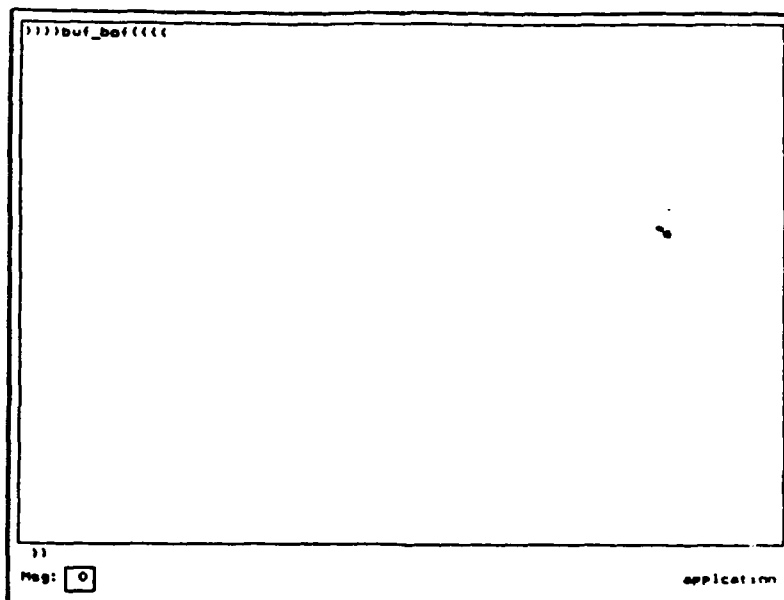


Figure 5-7 TE Screen after Paste with Fill

5.3.14 Set Fill Margins

Press <COMMAND>. On the command line type "margins 20 40" and press the <ENTER> key. Next press <FILL> and <FIRST PAGE>. The selected lines are pasted between the margins of 20 and 40 and should appear as in Figure 5-8.

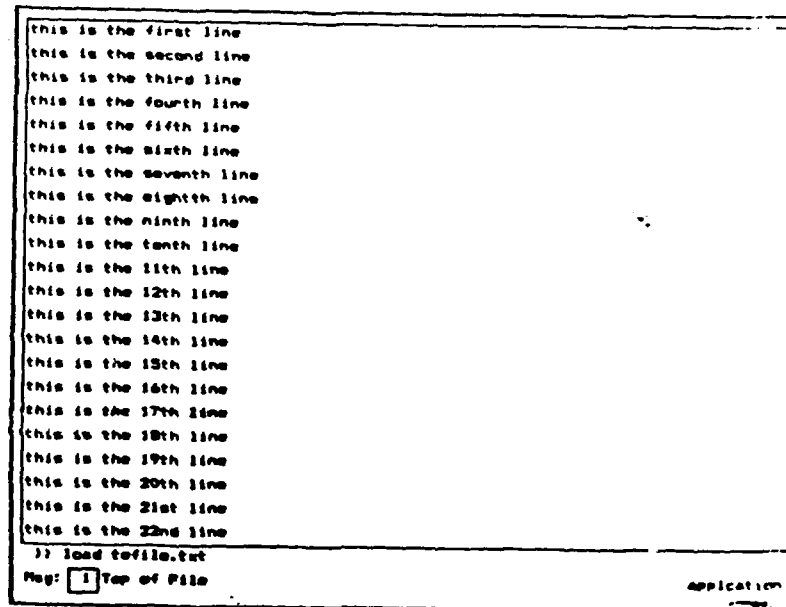


Figure 5-8 TE Screen Paste with Fill, Margins 20 40

5.3.15 Search

Press <COMMAND>. On the command line type "search line" and press the <ENTER> key. The cursor should move to the first occurrence of the word "line".

5.3.16 Search Next

Press <SEARCH NEXT>. The cursor should move to the next occurrence of the word "line".

5.3.17 Repeat Command

Press <FIRST PAGE> then <COMMAND>. On the command line type "repeat 2" and press <ENTER>. The message line should display the message "in repeat". Next type "search line" on the command line and press the <ENTER> key. The cursor should move to the second occurrence of the word "line".

5.3.18 Repeat Function Key

Press <FIRST PAGE> then <COMMAND>. On the command line type "repeat 2" and press <ENTER>. The message line should display the message "in repeat". Next press <SEARCH NEXT>. The cursor should move to the second occurrence of the word "line".

5.3.19 Replace

Move the cursor to the line which reads "this is the fifth line". Press <COMMAND>. On the command line type "replace is **" and press <ENTER>. The first occurrence of "is" should be changed to "**". Use the arrow keys to move the cursor to the start of the next line and press <COMMAND>. On the command line type "replace is ** ." and press <ENTER>. All occurrences of "is" on the line will be changed to "**". Use the arrow keys to move the cursor to the start of the line which reads "this is the ninth line" and then press <SELECT>. Move the cursor down three lines and then press <COMMAND>. On the command line type "replace is **" and press <ENTER>. All occurrences of "is" should be changed to "**" on the two lines between the selected line and the cursor's line.

5.3.20 Clear

Press <COMMAND>. On the command line type "clear" and press <ENTER>. The workspace is cleared of all lines. Press <PASTE> and <FIRST PAGE> and the workspace is restored.

5.3.21 Save on VAX

Press <COMMAND>. On the command line type "save tefile.sav" and press <ENTER>.

5.3.22 Save on IBM

Press <COMMAND>. The command is save, and the same file name format should be used as with the LOAD. For example, to save the file as the TMP SAV member of the PDS associated with the ddname EDSFIL, you would type the command "SAVE EDTFIL(TMP SAV)". The BATI ISS JCL preallocates EDTFIL to IISSCM.R23.UI.ACTEST.

5.3.23 Quitting

Press <QUIT>. When the IISS Function Screen is displayed press the <QUIT> key again.

APPENDIX A

TEFILE.TXT LISTING

The following is a listing of the file TEFILE.TXT which is the input file used for testing the text editor.

this is the first line
this is the second line
this is the third line
this is the fourth line
this is the fifth line
this is the sixth line
this is the seventh line
this is the eighth line
this is the ninth line
this is the tenth line
this is the 11th line
this is the 12th line
this is the 13th line
this is the 14th line
this is the 15th line
this is the 16th line
this is the 17th line
this is the 18th line
this is the 19th line
this is the 20th line
this is the 21st line
this is the 22nd line
this is the 23rd line
this is the 24th line
this is the 25th line
this is the 26th line
this is the 27th line
this is the 28th line
this is the 29th line
this is the 30th line

APPENDIX B
TEFILE.SAV LISTING

The following is a listing of the file TEFILE.SAV which is the output file from the editing session of the text editor.

```

      this is the first
      line this is the
      second line
this is the first line this is the second line
this is the first line
this is the second line
this is the third line
this is the fourth line
th** is the fifth line
th** ** the sixth line
this is the seventh line
this is the eighth line
th** ** the ninth line
th** ** the tenth line
this is the 11th line
this is the 12th line
this is the 13th line
this is the 14th line
this is the 15th line
this is the 16th line
this is the 17th line
this is the 18th line
this is the 19th line
this is the 20th line
this is the 21st line
this is the 22nd line
this is the 23rd line
this is the 24th line
this is the 25th line
this is the 26th line
this is the 27th line
this is the 28th line
this is the 29th line
this is the 30th line
```

APPENDIX C
VT100 KEYPAD LAYOUTS

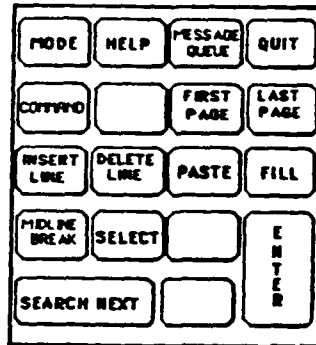


Figure C-1 Text Editor Function Keys (application mode)

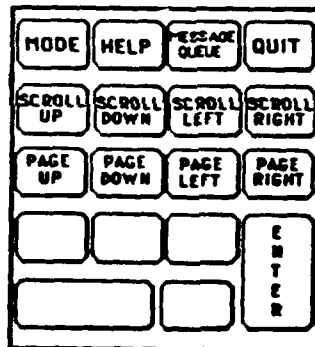


Figure C-2 Text Editor Function Keys (scroll/page mode)